

Notice of Allowability

Application No.

09/623,034

Examiner

Ashwin Mehta

Applicant(s)

KLESSIG ET AL.

Art Unit

1638

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the papers filed on 22 October 2003.
2. ☒ The allowed claim(s) is/are 10,13,15,16,18 and 19.
3. ☐ The drawings filed on 24 August 2000 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.
5. ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
 - (a) ☐ The translation of the foreign language provisional application has been received.
6. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

7. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
8. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No. _____.
 - (b) ☐ including changes required by the proposed drawing correction filed _____, which has been approved by the Examiner.
 - (c) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the margin according to 37 CFR 1.121(d).

9. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|--|
| 1 <input type="checkbox"/> Notice of References Cited (PTO-892) | 5 <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2 <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6 <input checked="" type="checkbox"/> Interview Summary (PTO-413), Paper No. <u>11262003</u> . |
| 3 <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No. _____ | 7 <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4 <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8 <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9 <input type="checkbox"/> Other _____ |

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Claim Objections and Rejections

1. The objection of claim 11 is withdrawn, in light of its cancellation.
2. The rejection of claim 11 under 35 U.S.C. 112, 2nd paragraph, is withdrawn in light of its cancellation.
3. The rejection of claims 1, 4, 5, 7, 10, 11, 13, 15, 16, 18, and 19 under 35 U.S.C. 112, 1st paragraph, is withdrawn in light of the claim amendments.
4. The rejection of claims 1, 4, 5, 7, 10, 11, 13, 15, 16, 18, and 19 under 35 U.S.C. 103(a) is withdrawn, in light of the claim amendments.

Examiner's Amendment

5. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Kathleen Rigaut on November 26, 2003.

The application has been amended as follows:

Claims 1, 4, 5, and 7 have been cancelled.

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10. (Currently Amended) A method of making a transgenic plant expressing the N gene, having enhanced disease resistance comprising:

a) transforming regenerable cells of a plant with a recombinant DNA construct comprising a figwort mosaic virus 35S promoter operably linked to a nucleic acid molecule selected from the group consisting of a sequence set forth in SEQ ID NO: 1 or a sequence having 90% sequence identity therewith encoding a functional kinase enzyme, expressible in a plant; and

b) regenerating [a] transgenic plants [plant] from said transformed regenerable cells, [said] and selecting for transgenic plants [plant] having enhanced disease resistance to a plant disease-causing agent selected from the group consisting of, tobamoviruses, elicitor-producing fungi, parasiticein-producing fungi, cryptogeiin-producing fungi, harpin-producing bacteria, tobacco mosaic virus and Phytophthora fungi.

18. (Currently Amended) A method of making a transgenic plant expressing the N gene, having enhanced disease resistance comprising:

a) transforming regenerable cells of a plant with a recombinant DNA construct comprising an inducible promoter operably linked to a nucleic acid molecule selected from the group consisting of a sequence set forth in SEQ ID NO: 1 or a sequence having 90% sequence identity therewith encoding a functional kinase enzyme, expressible in a plant; and

b) regenerating [a] transgenic plants [plant] from said transformed regenerable cells, [said] and selecting for transgenic plants [plant] having enhanced disease resistance to a plant disease-causing agent selected from the group consisting of, tobamoviruses, elicitor-producing

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fungi, parasiticein-producing fungi, cryptogein-producing fungi, harpin-producing bacteria, tobacco mosaic virus and Phytophthora fungi.

6. Claims 10, 13, 15, 16, 18, and 19 are allowed.

7. The following is an examiner's statement of reasons for allowance: Applicants have determined that a 44 kD tobacco protein, designated "WIPK," is induced tobacco plants infected with Tobacco Mosaic Virus (TMV), and that the kinase activity of the protein is also activated. The specification teaches that activation of this WIPK in the TMV-infected plants is also dependent on the presence of the N resistance gene. The specification also teaches that WIPK is activated by treatment with fungal elicitors derived from Phytophthora, the bacterial-encoded elicitor harpin, and to the fungal elicitors parasiticein and cryptogein. Applicants have developed a method of conferring enhanced disease resistance to transgenic plants, which express the N gene, against diseases caused by tobamoviruses, elicitor-producing fungi, parasiticein-producing fungi, cryptogein-producing fungi, harpin-producing bacteria, TMV, and Phytophthora fungi, the method comprising producing transgenic plants comprising a recombinant DNA construct comprising a figwort mosaic virus 35S promoter or an inducible promoter, operably linked to SEQ ID NO: 1, which encodes WIPK. Seo et al. (Science, 1995, Vol. 270, pages 1988-1992) teach transgenic tobacco plants, homozygous for the N gene, transformed with a nucleotide sequence encoding tobacco WIPK. However, while Seo et al. characterize the plants in their

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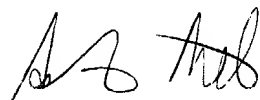
response to wounding, the reference does not teach testing the pathogen-resistance of the plants, as persuasively argued by Applicants in the paper submitted October 22, 2003, pages 10-11.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Contact Information

Any inquiry concerning this or earlier communications from the examiner should be directed to Ashwin Mehta, whose telephone number is 703-306-4540. The examiner can normally be reached on Mondays-Thursdays and alternate Fridays from 8:00 A.M to 5:30 P.M. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amy Nelson, can be reached at 703-306-3218. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3014 and 703-872-9306 for regular communications and 703-872-9307 for After Final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.

November 26, 2003



Ashwin D. Mehta, Ph.D.
Primary Examiner
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